CLAIMS

1. A voltage control circuit comprising:

a bandgap device to produce a reference voltage based on a desired power level; and

a decision device to receive the reference voltage from the bandgap device and to receive a voltage signal from a power source, the decision device to determine whether the voltage signal received from the power source corresponds to the desired power level.

2. The circuit of claim 1, wherein the decision device comprises a comparing device to compare values associated with the reference voltage and the voltage signal, and to output a result signal based on the comparison.

3. The circuit of claim 2, wherein the decision device further comprises a decision mechanism to receive the result signal output from the comparing device and to make a decision regarding operation of the power source.

4. The circuit of claim 2, wherein the decision comprises determining that the voltage signal is not at the desired power level.

5. The circuit of claim 1, wherein the voltage signal is used to power a plurality of distributed oscillators.

6. The circuit of claim 5, wherein the plurality of distributed oscillators drive a clock distribution network asynchronously with respect to an external clock.

7. The circuit of claim 1, wherein the voltage control circuit is provided within a core of an integrated circuit.

8. The circuit of claim 7, wherein the voltage signal is provided by a voltage regulating device located external to the core.

9. The circuit of claim 1, further comprising a device to provide a first code and a second code based on the desired power level, the reference voltage being produced based on the first code.

10. The circuit of claim 9, wherein the voltage signal is provided by the power source based on the second code.

11. The circuit of claim 9, wherein the first code is identical to the second code.

12. The circuit of claim 9, wherein the first code is different than the second code.

13. An apparatus comprising:

a clock distribution network;

at least one oscillator coupled to the clock distribution network so as to provide a clock signal on the clock distribution network; and

a power control circuit to control power applied to the at least one oscillator, the power control circuit including:

a bandgap device to produce a reference voltage based on a desired power level; and

a decision device to receive the reference voltage from the bandgap device and to receive a voltage signal from a power source external to the apparatus, the decision device to determine whether the voltage signal received from the power source corresponds to the desired power level.

14. The apparatus of claim 13, wherein the decision device comprises a comparing device to compare values associated with the reference voltage and the voltage signal, and to output a result signal based on the comparison.

15. The apparatus of claim 14, wherein the decision device further comprises a decision mechanism to receive the result signal output from

the comparing device and to make a decision regarding operation of the power source.

16. The apparatus of claim 14, wherein the decision comprises determining that the voltage signal is not at the desired power level.

17. The apparatus of claim 13, wherein the voltage signal is used to power a plurality of distributed oscillators.

18. The apparatus of claim 17, wherein the plurality of distributed oscillators drive the clock distribution network asynchronously with respect to an external clock.

19. The apparatus of claim 13, wherein the power control circuit is provided within a core of an integrated circuit.

20. The apparatus of claim 19, wherein the voltage signal is provided by a voltage regulating device located external to the core.

21. The apparatus of claim 13, further comprising a device to provide a first code and a second code based on the desired power level, the reference voltage being produced based on the first code.

22. The apparatus of claim 21, wherein the voltage signal is provided by the power source based on the second code.

23. The apparatus of claim 21, wherein the first code is identical to the second code.

24. The apparatus of claim 21, wherein the first code is different than the second code.

25. An apparatus comprising:

a processor core having a voltage control circuit and at least one oscillator to produce core clock signals; and

a power source located external to the core to provide power for the at least one oscillator based on a signal received from the processor core,

the voltage control circuit including:

a first device to produce a reference signal indicative of a desired power level to power the at least one oscillator; and

a second device to receive the reference signal and to receive a signal from the power source, the second device to determine whether the signal received from the power source corresponds to the desired power level.

26. The apparatus of claim 25, wherein the second device comprises a comparing device to compare values associated with the reference signal and the signal received from the power source, and to output a result signal based on the comparison.

27. The apparatus of claim 26, wherein the second device further comprises a decision mechanism to receive the result signal output from the comparing device and to make a decision regarding operation of the power source.

28. The apparatus of claim 27, wherein the decision comprises determining that the signal from the power source is not at the desired power level.

29. The apparatus of claim 25, wherein the signal received from the power source is used to power a plurality of distributed oscillators.

30. The apparatus of claim 29, wherein the plurality of distributed oscillators drive a clock distribution network asynchronously with respect to an external clock.

31. The apparatus of claim 25, further comprising a device to provide a first code and a second code based on the desired power level, the reference signal being produced based on the first code.

32. The apparatus of claim 31, wherein the signal received from the power source is based on the second code.

33. The apparatus of claim 31, wherein the first code is identical to the second code.

34. The apparatus of claim 31, wherein the first code is different than the second code.

35. A method comprising:

producing a reference voltage based on a desired power level; and

determining whether a supplied voltage received from a voltage source corresponds with the desired power level.

36. The method of claim 35, further comprising powering a plurality of distributed oscillators with the supplied voltage.

37. The method of claim 35, wherein the determining comprises comparing a value associated with the reference voltage with the supplied voltage.

38. The method of claim 37, further comprising determining that the supplied voltage does not correspond to the desired power level based on the determining.

39. The method of claim 35, wherein the reference voltage is produced by a bandgap device located within a core.

40. The method of claim 39, wherein the voltage source is located external to the core.